ORDER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

8260.34

10/26/83

SUBJ: GLIDE SLOPE THRESHOLD CROSSING HEIGHT REQUIREMENTS

1. PURPOSE. This order provides criteria and guidance for establishing the threshold crossing height (TCH) for instrument landing system (ILS) glide slopes.

2. DISTRIBUTION. This order is distributed to the branch level in the Offices of Flight Operations, Aviation Policy and Plans, and Airport Standards; to the branch level in the Air Traffic, and Program Engineering and Maintenance Services; to the branch level in the regional Flight Standards, Air Traffic, Airway Facilities, and Airports Divisions; to the branch level in the Aviation Standards National Field Office; to the National Airway Engineering Field Support Sector at the Aeronautical Center; to all General Aviation, Air Carrier, and Flight Standards District Offices; to all Flight Inspection Field Offices and International Field Offices; and to all Airway Facilities Sectors and Sector Field Offices.

3. CANCELLATION. Order 8260.24C, Category I ILS Threshold Crossing Height, dated January 14, 1980, is cancelled.

4. DEFINITIONS.

a. Threshold Crossing Height (TCH). The height above the runway threshold at which the aircraft% glide slope antenna will be if the aircraft maintains the flightpath established by a straight-line extension of the mean ILS glidepath.

b. Wheel Crossing Height (WCH). The height above the runway threshold at which the lowest part of the landing gear will be if the aircraft's glide slope antenna crosses the runway threshold at the published TCH with the aircraft in the normal landing configuration and flare does not occur.

5. CATEGORY I TCH REQUIREMENTS.

a. Operational Objective. Provided there is not a problem with obstacles penetrating the final approach obstacle clearance surfaces, the ILS glide slope should be located to provide a commissioned TCH which will result in a WCH of 30 feet for the types of aircraft with the greatest glidepath-to-wheel height normally expected to use the runway. See appendix 1.

b. Deviations from the Objective. The TCH shall not be commissioned at a height which would result in a WCH of less than 20 feet or greater than 50 feet for the types of aircraft with the greatest glidepath-to-wheel height normally expected to use the runway. These limits shall not be exceeded unless formally approved by a flight procedures standards waiver as outlined in Handbook 8260.19, Flight Procedures and Airspace.

Distribution: A-W(FO/PO/AS/AT/PM)-3; A-X(FS/AT/AF/AS)-3; A-Y(WN)-3; A-Y(AE)-2; A-FFS-1,2,4,5,7(STD); A-FAF-2,3,7(LTD); AAC-952(25 copies)

Initiated By: AFO-210

NOTE: 60 feet is the maximum recommended TCH. Although a TCH higher than 60 feet may be within the allowable deviation limits, it should be corrected if practical.

c. Displaced Threshold Considerations. The TCH over a displaced threshold can be as low as that which will result in a WCH of not less than 10 feet for the largest aircraft normally expected to use the runway provided the TCH over the beginning of the full strength runway pavement suitable for landing meets TCH requirements.

6. CATEGORY II AND III TCH REQUIREMENTS.

a. Standard. The commissioned TCH shall be between 50 to 60 feet with the optimum being 55 feet.

b. Deviations from the Standard. Any deviation must be formally approved by a flight procedures standards waiver as outlined in Handbook 8260.3B.

c. Temporary Exemption Clause. When Order 8240.47, Determination of' Instrument Landing System (ILS) Glidepath Angle, Reference Datum Heights, and Ground Point of Intercept, is applied to a previously established site where the TCH has been within allowable limits but the new flight inspection derived TCH is not, operations may continue without the need for a waiver for a period of time no-t to exceed 365 days from the date Order 8240.47 is applied if the new TCH does not deviate more than 3 feet from the standard.

(1) If aircraft in height group 4 (see appendix 1) have not been excluded from conducting Category II or III operations on that runway, a TCH lower than 50 feet is not permitted unless the ACHIEVED ILS REFERENCE DATUM HEIGHT (ARDH) has averaged 50 feet or higher.

(2) After 365 days, a flight procedures waiver must have. been approved, the situation corrected, or Category II and III operations cancelled.

(3) The Manager of the Air Transportation Division, AFO-200, can authorize further deviation or immediately rescind this temporary exemption.

7. RESPONSIBILITY.

a. Regional Flight Standards Division. The manager is responsible for determining the types of aircraft normally expected to operate on the runway at which the ILS will be installed, for specifying the desired Category I TCH, and for initiating corrective action whenever a commissioned TCH no longer meets operational requirements. Some of the determining factors are:

(1) Runway length.

(2) Runway width.

(3) Runway weight-bearing capacity.

(4) Glidepath-to-wheel height in the normal landing-configuration for the types of aircraft normally expected to use the runway.

(5) Future plans, e.g., runway expansion, Category II, etc.

b. Flight Inspection Field Office (FIFO). The manager shall ensure that the commissioned glide slope provides a TCH (rounded to the nearest foot) which is within allowable limits and inform the regional Flight Standards representative of deviations from the TCH specified by the Flight Standards Division.

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Acting Director of Flight Operations

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APPENDIX 1. GENERAL GUIDELINES FOR CATEGORY I TCH DETERMINATION.

Types of Aircraft	Approximate Glidepath-to-Wheel Height (TCH vs. WCH)	Recommended TCH ± 5 feet	Remarks
HEIGHT GROUP 1.			
General Aviation Small Commuters Corporate Turbojets	less than 10 feet	40 feet	Many runways less than 6,000 feet long with reduced widths and/or restricted weight bearing which would normally prohibit landings by larger aircraft.
HEIGHT GROUP 2.			
B-737, DC-9, DC-8, F-28, CV-340/440/580	15 feet	45 feet	Regional airport with limited air carrier service.
HEIGHT GROUP 3.			
B-727/707/720/757	20 feet	50 feet	Primary runways not normally used by aircraft with glidepath-to-wheel heights exceeding 20 feet.
HEIGHT GROUP 4.			
B-747/767, L-1011, DC-10, A-300	25 feet	55 feet	Most primary runways at major airports.

Note 1: To determine the minimum allowable TCH, add 20 feet to the glidepath-to-wheel height.

Note 2: To determine the maximum allowable TCH, add 50 feet to the glidepath-to-wheel height.

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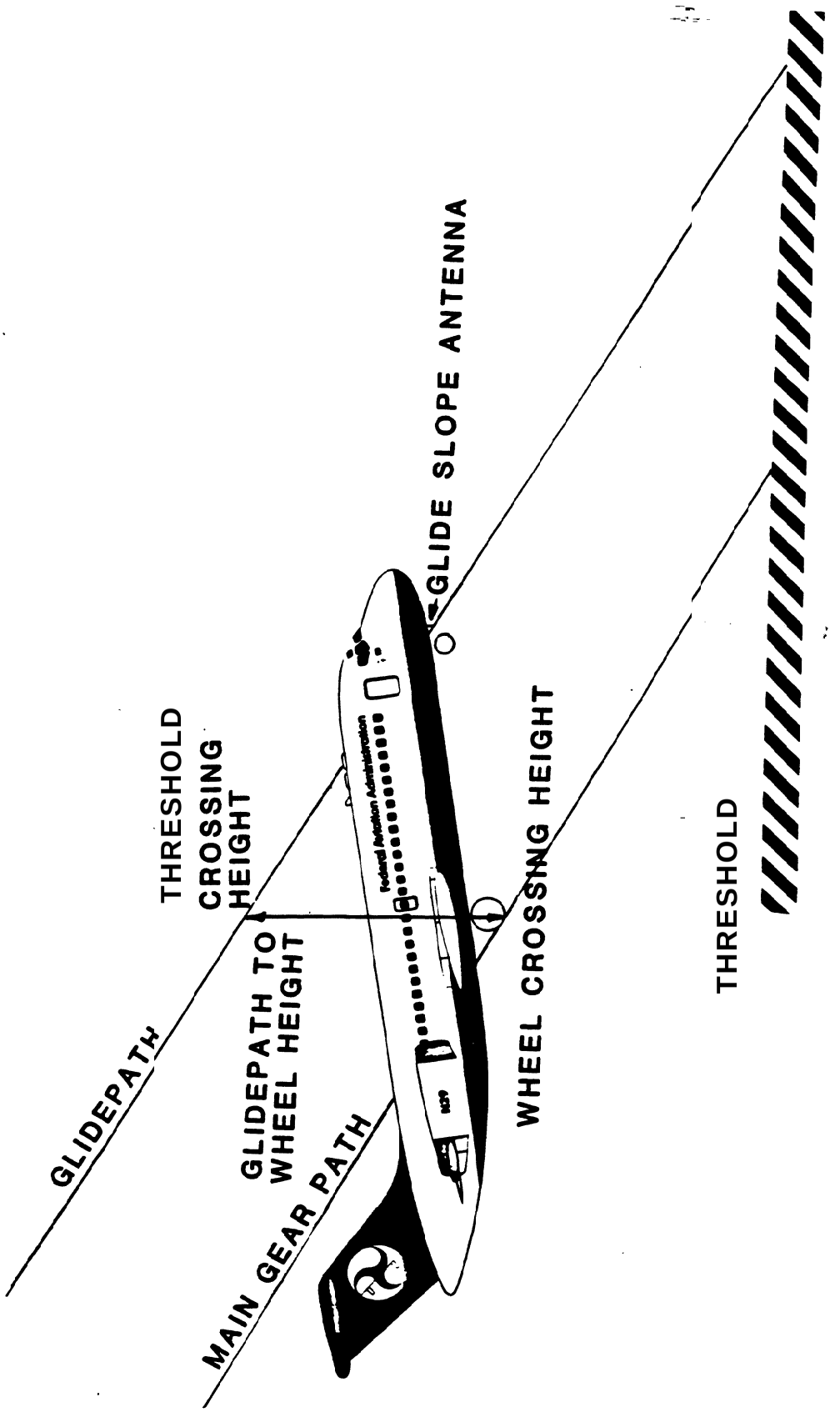
GLIDE SLOPE ANTENNA
THRESHOLD CROSSING HEIGHT
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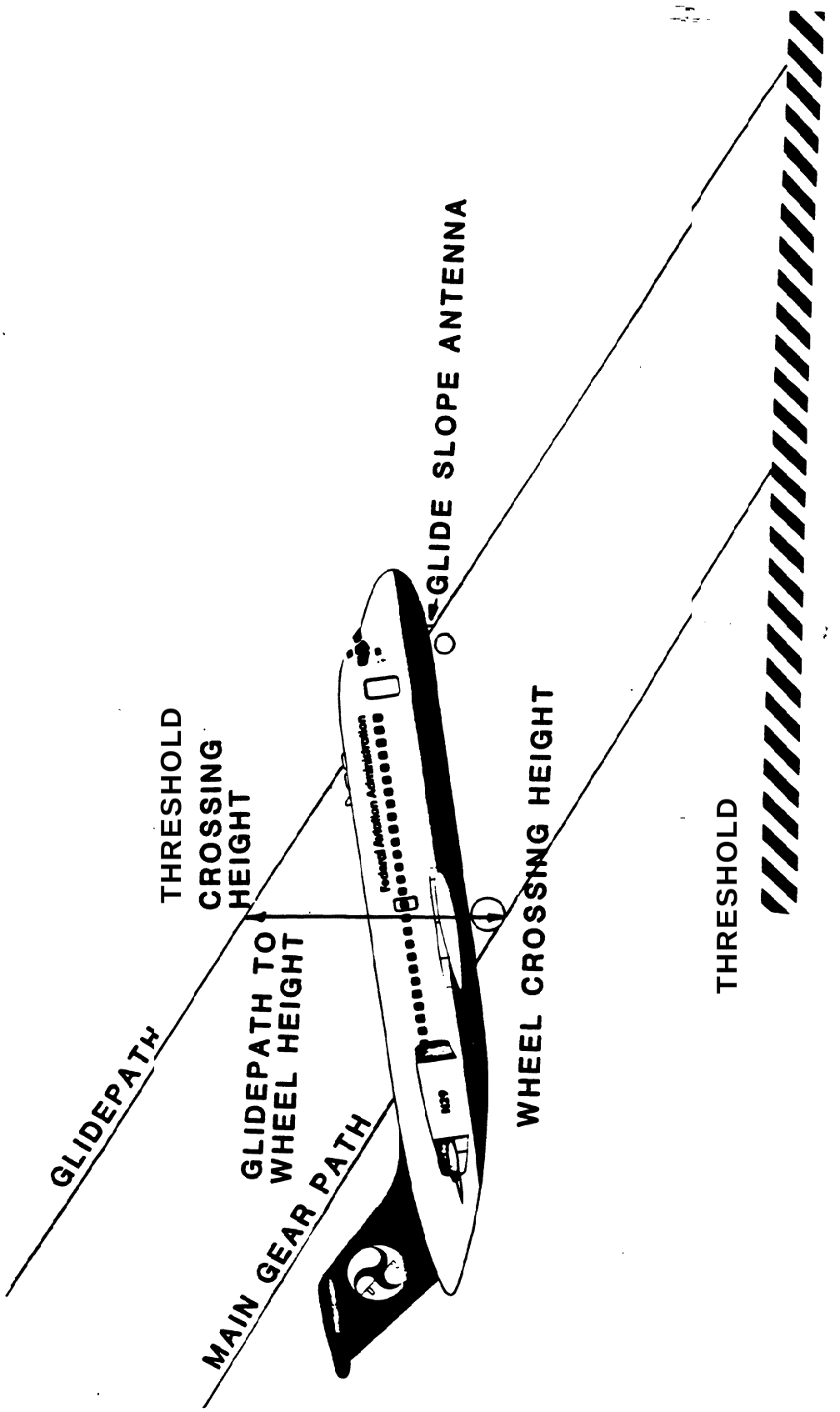
THRESHOLD
GLIDEPATH
MAIN GEAR PATH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